

CAC2S; Bridging the Gap

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CAC2S; Bridging the Gap
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Marine aviation has continued to evolve as a warfighting organization since its inception during World War II. As a result of technological advances, such as the radar and fixed machine guns attached to airplanes, more specified roles for Marine aviation became apparent, as did the need to command and control these assets. Hence, the birth of marine air command and control system (MACCS). The MACCS developed to provide more effective command and control of aircraft and missile. A system conceived from necessity, evolved to enhance aviation mission capabilities, and currently under fire to evolve again to support commanders' efforts to defeat a 21st century threat now has the opportunity to set the stage for true C2 transformation. Failure to transform into a useful and relevant C2 node in line with future warfighting concepts such as Joint Vision 2020 and Marine Strategy 21 will result in the obsolescence of the MACCS. The implementation of the Common aviation command and control system (CAC2S) to replace current systems is not advancement, but merely a hardware systems upgrade. The Marine Corps must use the new CAC2S to restructure the Marine Air Control Group in order to conduct its mission more efficiently, which means with fewer personnel, a

smaller footprint, and more qualified air command and control specialists.

CAC2S Background

Command and control experts recognized that the MACCS needed to become better equipped to support a more capable and more expeditionary Marine Corps of the 21st century. In order for this to occur, legacy systems had to be downsized in order to become expeditionary. The outdated systems had to be multifunctional and common among the agencies of the MACCS. The problem of software systems being incompatible was exacerbated by units within the MACG acquiring commercial off-the-shelf equipment that was incompatible with some of the other systems utilized by joint and combined forces. Over the years, the MACG had numerous systems that required several duty experts with limited to no training experience. The problem had to be resolved through action.

A commitment for a more expeditionary MACCS began in the mid 1990s when a \$132 million contract was awarded to Raytheon Company to commence development of the CAC2S. The project was initiated to completely overhaul the MACCS' software and hardware and "provide a common suite of

tactical facilities, equipment, and interfaces for a system that will replace legacy systems... "

Although several discussions were conducted between C2 specialists from all of the Marine Air Control Groups, it wasn't until 2002 that the Marine Corps stood up the MACCS transformation task force, whose role is to work with the operating forces to formulate model designs to possibly restructure the MACCS centered on the new CAC2S. This assignment sparked unintended second and third echelon consequences that should prove critical to the success of a newly designed and different way of performing the mission.

Technological Influence

The pursuit of technology within the C2 community, beginning with the implementation of radar to conduct control of air to air missions and continuing to present day with software systems and an equivalent of two infantry battalion's communications equipment located in one vehicle. Technology has been beneficial in numerous ways, providing more timely and accurate information to the commander. However, the constant historical fact is that these technological advances have always resulted in the Marine Corps' restructuring and changing to better support the air commander and the ground forces. There are several

examples to be cited as to how technology has created change and restructuring of the MACCS. During World War II, ground-based radars were modified and utilized to guide tactical aircraft to desired targets to be destroyed. This technology along with a mission change produced an air support radar team.

The current Direct Air Support Center (DASC), Tactical Air Operations Center (TAOC), and Tactical Air Command Center (TACC), which were once robust and intensely supported logistically systems, have strived to attain more expeditionary in nature in order to literally keep pace with the ground forces and Marine philosophy of being expeditionary. The purpose of the MACCS is to provide the commander with timely and accurate information so that he can make decisions.

With continued and significant changes in technology, communications equipment, and computers, the agencies of the MACCS have embraced these modernizations and have been fairly successful in accomplishing its mission. However, caution must be taken and prudence must be given not to allow the desire to have the latest and greatest technology has to offer at the sacrifice of constant change in structure and/or functionality of the MACCS.

The problem

The timing of implementing the new CAC2S, its concepts and developmental plans fit perfectly in line with what the Marine Corps' theory in building field grade officers with the military occupational specialty (MOS) 7202, air command and control officers. A 7202, air command and control officer, automatically acquires this additional MOS once promoted to the rank of major. He or she is supposedly an expert in the MACCS and is able to take on billet assignments anywhere within the MACCS community. In theory, this is an excellent professional progression, but reality reveals all the shortcomings and the gaps in the bridge toward achieving an expertise as a MACCS officer and the unrealistic expectations as a result of lack of formal training to achieve this standard.

A junior officer's normal MOS progression currently places him or her at a mid-grade to senior captain before potentially being assigned to a command and control unit other than that of their primary MOS. Routinely, they are sent back to a unit of their field expertise after a "B" billet assignment to refresh themselves on their primary MOS. This routine assignment process is in no way

conducive to a progression path of building 7202s or air command and control officers.

Now is the time to maximize the utility of the dollars that were spent on the CAC2S, which provides the entire MACCS with a common suite capable of being utilized as a DASC, TACC, or TAOC. What is absent from this common system is the common training that MACCS personnel receive. There is no bridge that connects the operators of individual systems with a common language and common training to accomplish a common mission. The paradigm shift on how we conduct business has to occur now. The second and third consequences of the CAC2S can prove more beneficial beyond anyone's expectations. The author does not attempt to offer the final solution to a complex problem; however, the common language and common skills can begin at the training schools. A broader vision has to be incorporated into the training and there is no better time than now. Focus must be dedicated to building air command and control officers, not senior air directors.

The Leap

The mission of the MACCS is to support the aviation commander and that mission has remained unchanged. The TACC's mission is still to provide a command center for the

Aviation Combat Element (ACE) commander and the battlestaff to plan, command, supervise, and direct Marine air ground task force (MAGTF) air operations and the mission of the DASC remains as processing immediate air support requests, to integrate aviation as a supporting arm, to manage terminal control assets supporting ground combat and combat service support forces, and to procedurally control assigned aircraft transiting through its area of operations. The mission of the TAOC is to detect, identify and control the intercept of hostile aircraft and missiles and to provide navigational assistance.

The concept of reorganizing the MACCS for today's battlefield is not a new concept. John Madsen directly points out in his thesis paper in 2001 as well several other authors of as many articles within the past decade. The single distinct factor that the previous authors did not have was an actual system that would permit the transformation of the MACCS organization. Now, the opportunity to completely transform is being presented through CAC2S, which will be field-tested by the operating forces in the summer of 2005.

The CAC2S' concept to provide commonality for all agencies currently resident within the MACG could eliminate a necessity of manning three separate squadrons with three

separate maintenance sections for various types of equipment. This provides a more expeditionary, more capable, and more efficiently manned system with more qualified personnel.

The Bridge

The opportunity to build true expert air command and control officers is being afforded to our community. The bridge to build these officers must occur at the training school level. Currently, officers with a DASC and TAOC background spend two to four years of their careers as junior company grade officers attaining qualifications that can and should be done by enlisted Marines, as is the case by their Navy counterparts. These first few years should be better invested developing leaders of these agencies and experts of the command and control system. To use an analogy related to an infantry officer, our junior officers "should not be digging fighting holes, but planning where the fighting holes should go."

Officers and enlisted operators must attend a basic course that would outline the mission of the system and the technical skills of each component of the MACCS in order to develop an understanding of the MACCS. Sustained training must be strictly enforced and regulated at the group level.

As any new officer in the operating force, he or she must learn their trade and be proficient at it. As the infantry platoon commander learns his trade in order to prepare for company command in a six to eight month time period, so must we train the air command and control officer to learn his trade in order to assume command of a CAC2S.

Counter Argument

Some will argue that incorporating a common air controller MOS would reveal a decline in technical duty experts. That would hardly be the case if the school house and operating forces worked together to structure a sound initial training program that focuses on core skills such as controlling aviation in whatever capacity, air to air interdiction, routing, and so forth. The training should focus on building CAC2S operators and officers capable of filling any position within the system at any unit. Sustained training would continue to be conducted in the operating forces, but officers must be held accountable for the training of both enlisted and junior officers. All the officers would become duty experts of the system, not just one agency within it, as time and experience would be shortened, developing them as officers with the MOS of 7202.

The group headquarters should be leaning forward to prepare for a system that is coming to the operating forces.

Proactive measures can be taken, such as establishing a strictly monitored rotation plan so that officers are able to serve a tour of eight months in each of the squadrons currently in the MACG in order that he or she develop a comprehensive understanding of the MACCS and future CAC2S. The friction point is that MACCS personnel spend an unnecessary four years qualifying for positions that they will never serve in later in their careers.

The endstate of building fully qualified and knowledgeable 7202 air command and control officers cannot be side stepped. As Madsen points out, change must come from the top or outside of an organization. We must use the CAC2S to the maximum extent possible to restructure and formalize training 7202 officers. They go hand in hand. There is no question that the MACCS continues to have relevant and necessary functions, however, technological advances in radar and targeting acquisition systems now in aircraft have forced our community to begin to make a change. The change must be completely revolutionary, not only in regards to upgrading legacy equipment, but, more

importantly in training and philosophy if we are to
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